



7/30/02

To: [Hebert.John@epa.gov](mailto:Hebert.John@epa.gov)

Subject: Diazinon Usage for Lettuce Production

Dear Mr. Hebert:

D'Arrigo Bros. Co. of California (D'Arrigo) is providing this correspondence in support of the utilization of Diazinon granular and liquid formulations on vegetables grown in California and Arizona. D'Arrigo is one of the larger growers, packers, and shippers of lettuce with over 30,000 farmable acres in the west coast. Diazinon is an essential tool as a soil treatment in controlling the soil pests, and also as a foliar treatment for aphids and other foliar pests on iceberg and leaf lettuce. D'Arrigo feels Diazinon granular and liquid formulations are an effective and essential tool for the control of root maggots, springtails, centipedes, cutworms, and aphids. Currently, there is no economically viable alternative available to control the root maggot, springtail, centipede, cutworm, and aphid on iceberg and leaf lettuce.

Primarily, D'Arrigo uses Diazinon granular at planting to control persistent soil pests. At planting, our greatest concern is the root maggot, springtail, and centipede pressure. The rapid turn-a-round period for a field after it has been harvested to prepare for the next crop is the most crucial stage in the development of the root maggots, springtails and centipedes. High levels of plant residue that correlate with high content of organic matter are ideal conditions to exacerbate the aforementioned root maggot, springtail, and centipede pressure. To reduce the pest's economic and physical damage, D'Arrigo uses Diazinon granular at planting. Once the cultivar has germinated, continual damage may occur if pest pressure persists.

The standard application for Diazinon granular today is as follows; applicators that have had extensive hours in chemical training shank it in the soil. In ground applications, there is only one person involved in the application process. Like all applications, the at-planting application is mitigated, thus limiting the worker exposure through the use of "Gandy" boxes with a chain-propelled shaft that drops the desired amount below the soil surface and adjacent to the seed line. Rollers on the back of the planter

cover the granules eliminating any possible worker contact. Based on the labeled use patterns there is no exposure to workers because the material is applied below the surface and irrigated after planting.

In addition, D'Arrigo uses the Diazinon liquid formulation. The liquid formulation is applied, by a trained applicator, to the surface and incorporated into the soil. However, it is not the formulation of choice. The absorption of the liquid occurs before planting and is not uniform due to variations in soil texture and moisture. Therefore, the Diazinon liquid formulation achieves inadequate seed protection control. This vast difference in efficacy is confirmed by a poor germinating stand that is due to pests in cloddy areas of the field. A second tractor application resulting in an additional \$30 per acre is another less appealing characteristic in the liquid formulation.

In comparison, the granular formulation is applied as part of the normal planting operation eliminating additional application costs. Furthermore, the granular formulation involves less potential exposure to workers and wildlife. The granular is shank injected below the soil surface eliminating any contact with irrigators entering the fields following planting to lay the sprinkler pipe or with wild life. Adversely, when the liquid is applied to the bed top, there is potential exposure.

The Mixer/Loader/Applicator is a single individual that treats a maximum of 20-40 acres per day, 2 or 3 days per week within a 9-month time period.

Both Diazinon formulations, granular and foliar, are essential tools in the production of iceberg and leaf lettuce (romaine, green leaf, red leaf, and butter) to control soil and foliar pests. Diazinon is critical in lettuce production because Oxydemeton-methyl and Acephate are not registered for use on leaf lettuce for aphids. D'Arrigo uses Diazinon in rotation with Imidacloprid (foliar), Endosulfan (where allowed) and Dimethoate to avoid the development of resistance.

In summary, the granular formulation is a more effective, a safer formulation to control soil pests in lettuce than the liquid formulation. The liquid formulation is less effective, more expensive, and creates additional exposure risks to workers and wildlife than the granular formulation. The two best alternatives for iceberg lettuce, Oxydemeton-methyl and Acephate, are not registered on leaf lettuce. D'Arrigo rotates the use of Imidacloprid with Diazinon to prevent pest resistance. Diazinon is the only economically viable effective alternative available to control the seed pests on iceberg and leaf lettuce. The cost of replanting damaged crops would present a financial hardship. Therefore, D'Arrigo is requesting that the existing label requirements for the use of Diazinon on iceberg and leaf lettuce be maintained.

Sincere rely,

Hector G. Mariscal

Entomologist